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(54) **SIALIC ACID TRANSPORTER PROTEINS AS BIOMARKERS AND DRUG TARGETS**

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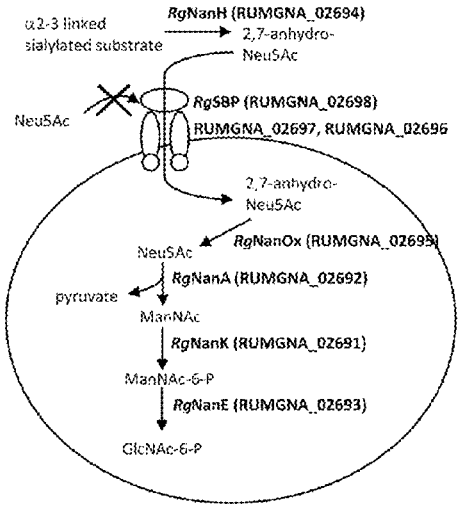
(57) **ABSTRACT**

A method of identifying, monitoring and/or diagnosing mucosal bacterial presence or infection, said method including the step of detecting at least part of a sialic acid transporter protein encoded by *Ruminococcus gnavus* (*R. gnavus*) ATCC 29149 Nan cluster. In addition, a method of inhibition of the growth of bacterium, said method including the step of inhibition of a sialic acid transporter protein is included.



***R. gnavus* sialic acid metabolism pathway.** *Rg*NanH releases 2,7-anhydroNeu5Ac from α2-3 linked sialylated glycoconjugates and is transported inside the bacterium *via* a 2,7-anhydro-Neu5Ac specific ABC transporter composed of a solute-binding protein (*Rg*SBP) and two putative permeases. The 2,7-anhydro-Neu5Ac is then converted into Neu5Ac, by the action of an oxidoreductase (*Rg*NanOx), before being catabolised into GlcNAc-6-P following the traditional pathway by the successive action of NanA (Neu5Ac aldolase), NanK (ManNAc kinase) and NanE (ManNAc-6-P epimerase).